WASHINGTON DEPARTMENT OF ECOLOGY

ENVIRONMENTAL ASSESSMENT PROGRAM

FRESHWATER MONITORING UNIT

STREAM DISCHARGE TECHNICAL NOTES

STATION ID: 35F050

STATION NAME: Pataha Creek near Mouth

WATER YEAR: 2005

AUTHOR: Mitch Wallace

Introduction

Watershed Description

Pataha Creek is a tributary of the Tucannon River. The confluence is approximately 1 mile downstream from the station. Pataha Creek runs generally northward from its headwaters in the northern Blue Mountains and then turns westward near the communities of Pataha and Pomeroy, where it drains agricultural lands.

Gage Location

The station is located at the Highway 261 crossing of Pataha Creek. It is located within the right-of-way of Highway 261 on the left side, downstream of the highway crossing.

Table 1.

Drainage Area (square miles)	170 (Streamstats)
Latitude (degrees, minutes, seconds)	46° 30' 43" N
Longitude (degrees, minutes, seconds)	117° 58' 23" W

Discharge

Table 2. Discharge Statistics.

Mean Annual Discharge (cfs)	7.3
Median Annual Discharge (cfs)	5.6
Maximum Daily Mean Discharge (cfs)	20
Minimum Daily Mean Discharge (cfs)	0.10
Maximum Instantaneous Discharge (cfs)	32
Minimum Instantaneous Discharge (cfs)	0.10
Discharge Equaled or Exceeded 10 % of Recorded Time (cfs)	16
Discharge Equaled or Exceeded 90 % of Recorded Time (cfs)	0.60
Number of Days Discharge is Greater Than Range of Ratings	0
Number of Days Discharge is Less Than Range of Ratings	69

Note: Statistics displayed in Table 2 may not include values in which the predicted discharge exceeds the range of ratings.

Narrative

The days in which discharge is less than the range of ratings indicates that at least one data point during the day was less than half of the lowest measured discharge.

Three discharge measurements were conducted throughout the water year, ranging from 1.0 to 6.0 cfs.

Error Analysis

Table 3. Error Analysis Summary.

Logger Drift Error (% of discharge)	2.2
Weighted Rating Error (% of discharge)	12.3
Total Potential Error (% of discharge)	14.5

Rating Table(s)

Table 4. Rating Table Summary

Rating Table No.	5	301	7
Period of Ratings	10/1/04 to4/6/05	10/1/04 to 6/29/05	4/6/05 to 7/16/05
Range of Ratings (cfs)	1.2 to 350	0.83 to 350	0.11 to 350
No. of Defining Measurements	2	7	9
Rating Error (%)	15.3	10.4	12.0

Rating Table No.	8	201	9
Period of Ratings	7/16/05 to 7/27/05	7/27/05 to 9/30/05	9/14/05 to 9/30/05
Range of Ratings (cfs)	0.11 to 350	0.57 to 350	0.73 to 350
No. of Defining Measurements	0	4	6
Rating Error (%)	n/a	11.5	12.8

Rating Table No.			
Period of Ratings			
Range of Ratings (cfs)			
No. of Defining Measurements			
Rating Error (%)			

Narrative

Rating #8 was developed to compensate for a downstream beaver dam. No verifying discharge measurements were available. Water-surface elevation at control (beaver dam) rose by 0.52 ft.

Stage Record

Table 5. Stage Record Summary

Minimum Recorded Stage (feet)	3.88
Maximum Recorded Stage (feet)	6.35
Range of Recorded Stage (feet)	2.47
Number of Un-Reported Days	5
Number of Days Qualified as Estimates	196
Number of Days Qualified as Unreliable Estimates	0

Narrative

The 5 unreported days were due to a suspected leak in the o-line. The o-line leak usually occurs when air temperatures were extremely low. The estimated days were due to beaver activity that affected the gage-pool elevation. There is significant beaver activity in this area.

Modeled Discharge

Table 6. Model Summary

Model Type (Slope conveyance, other, none)	n/a
Range of Modeled Stage (feet)	n/a
Range of Modeled Discharge (cfs)	n/a
Valid Period for Model	n/a
Model Confidence	n/a

Surveys

Table 7. Survey Type and Date (station, cross section, longitudinal)

Type	Date

Activities Completed

Established a secondary reference point on upstream end of culvert.